

IN THE CLAIMS:

Please cancel claims 9-24 without prejudice or disclaimer of the subject matter set forth therein. Please add the following new claims:

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-- 25. An excimer laser device in which a laser gas for excimer laser is sealed in a chamber and pulse oscillation is carried out in the chamber based on pulsed light having a narrow band input from a narrow-band making unit to excite the laser gas for excimer laser and to oscillate a pulsed laser, wherein a predetermined amount of xenon gas having a predetermined concentration is added to the laser gas for excimer laser in the chamber to lower burst and spiking phenomena caused in an excimer laser output. --

-- 26. The excimer laser device according to claim 25, comprising:
a xenon gas cylinder in which the xenon gas to be added to the chamber is sealed;

sensing means for detecting a concentration of the xenon gas added to the laser gas for excimer laser in the chamber; and

control means for controlling an amount of xenon gas supplied from the xenon gas cylinder to the chamber based on the concentration of the xenon gas detected by the sensing means. --

-- 27. The excimer laser device according to claim 25, wherein the laser gas for excimer laser contains 200 ppm or below of the xenon gas. --

DI -- 28. An excimer laser device having a mechanism for sealing a laser gas for excimer laser in a chamber and carrying out pulse oscillation in the chamber to excite the laser gas for excimer laser and to oscillate pulsed laser, which carries out burst operation by repeating a continuous pulse oscillation operation period and a pulse oscillation stopping period, comprising:

a narrow-band making unit for supplying pulsed light having a narrow band to the chamber;

xenon gas supplying means for supplying xenon gas as an additive into the laser gas for excimer laser in the chamber for reducing burst and spiking phenomena caused in an excimer laser output in the burst operation; and control means for controlling an amount of the xenon gas supplied to the chamber so that a concentration of the xenon gas in the chamber becomes a predetermined concentration by which burst and spiking phenomena caused in an excimer laser output in the burst operation can be lowered. --

-- 29. The excimer laser device according to claim 28, including concentration sensing means for detecting the concentration of the xenon gas in the chamber, wherein the control means controls the amount of the xenon

gas supplied to the chamber based on the concentration of the xenon gas detected by the concentration sensing means. --

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-- 30. The excimer laser device according to claim 28, wherein the laser gas for excimer laser contains 200 ppm or below of the xenon gas. --

-- 31. An excimer laser device including a laser gas for excimer laser sealed in a chamber; the laser gas comprising a gas mixture of a rare gas selected from the group consisting of Kr and Ar, a buffer gas of Ne, and a halogen gas; a narrow band input device for emitting pulsed light having a narrow band into the chamber, electrodes are arranged within the chamber for exciting the laser gas, a mirror arranged on an output side of the chamber for outputting pulsed laser light, and means for lowering burst and spiking phenomena and increasing energy of the pulsed laser output, the means for lowering burst and spiking phenomena and increasing energy of pulsed laser light including gas control means for adding xenon gas to the laser gas and controlling a concentration of xenon gas in the laser gas to an amount that effectively reduces the bursting and spiking phenomena in the pulsed laser output while also increasing energy of the pulsed laser output. --

-- 32. The excimer laser device according to claim 31, wherein the gas control means includes a sealed xenon gas cylinder for supplying the xenon

gas to the chamber; and sensing means for detecting a concentration of the xenon gas added to the gas mixture in the chamber; and control means for controlling an amount of the xenon gas supplied from the sealed xenon gas cylinder to the mixed gas chamber based on the concentration of the xenon gas detected by the sensing means. -

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-- 33. The excimer laser device according to claim 31, wherein the gas control means includes structure for mixing the xenon gas in the amount effective for reducing the bursting and spiking phenomena in the pulsed laser output into the laser gas, prior to sealing the laser gas in the chamber. --

-- 34. The excimer laser device according to claim 31, wherein the laser gas for excimer laser contains 200 ppm or below of the xenon gas. -

-- 35. An excimer laser output stabilizing method for stabilizing an excimer laser output based on pulsed laser oscillation of an excimer laser device, which comprises:

preparing a gas mixture comprising a mixture of a rare gas selected from the group consisting of Kr and Ar, a buffer gas of Ne, and a halogen gas into a laser chamber;

including xenon gas in the gas mixture;

supplying the gas mixture to a laser chamber;

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sealing the gas mixture in the laser chamber;
inputting a narrow light band from a narrow-band making unit into the laser chamber containing the gas mixture;
exciting the gas mixture by electrodes are arranged in the laser chamber;
repeating a continuous pulse oscillation and a pulse oscillation stopping period, and
outputting a burst of pulsed laser light from the laser chamber, while controlling the concentration of xenon gas in the gas mixture to an effective amount of xenon gas for reducing burst and spiking phenomena caused during the burst operation while increasing energy output of the output pulsed laser light. --

-- 36. An excimer laser output stabilizing method according to claim 35, further comprising the steps of:

sealing the xenon gas to be supplied to the chamber in a xenon gas cylinder;
detecting a concentration of xenon gas in the laser chamber, and
during the supplying of the xenon gas into the mixed gas chamber, a supply amount of the xenon gas is sealed in the xenon gas cylinder and then supplied to the mixed gas chamber is controlled based on the concentration of the xenon gas detected in the laser chamber. --

-- 37. An excimer laser output stabilizing method according to claim 36, wherein the supply amount of xenon gas into the mixed gas chamber, during the supplying of the xenon gas into the mixed gas chamber, is controlled so that 200 ppm or below of the xenon gas is contained in the mixed gas in the laser chamber. --

-- 38. An excimer laser output stabilizing method for stabilizing an excimer laser output based on pulsed laser oscillation of an excimer laser device, which comprises:

preparing a gas mixture comprising a mixture of a rare gas selected from the group consisting of Kr and Ar, a buffer gas of Ne, and a halogen gas into a laser chamber;

supplying the gas mixture to a laser chamber;

including xenon gas in the gas mixture;

sealing the gas mixture in the laser chamber;

inputting a narrow light band from a narrow-band making unit into the laser chamber containing the gas mixture;

exciting the gas mixture by electrodes arranged in the laser chamber;

repeating a continuous pulse oscillation and a pulse oscillation stopping period, and

outputting a burst of pulsed laser light from the laser chamber, while controlling the concentration of xenon gas in the gas mixture to an effective